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IS 4520 (1968): Forceps, Punch, Nasal (Citelli's Antrum and Hajek's Sphenoidal) [MHD 4: Ear, Nose and Throat Surgery Instruments]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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IS : 4520 - 1968

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*Indian Standard*  
SPECIFICATION FOR  
FORCEPS, PUNCH, NASAL (CITELLI'S  
ANTRUM AND HAJEK'S SPHENOIDAL)

UDC 615.472.41 : 616.211-089



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INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 1

May 1968

# *Indian Standard*

## SPECIFICATION FOR FORCEPS, PUNCH, NASAL (CITELLI'S ANTRUM AND HAJEK'S SPHENOIDAL)

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# *Indian Standard*

## SPECIFICATION FOR FORCEPS, PUNCH, NASAL (CITELLI'S ANTRUM AND HAJEK'S SPHENOIDAL)

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 21 February 1968, after the draft finalized by the Surgical Instruments Sectional Committee had been approved by the Consumer Products Division Council.

**0.2** The formulation of Indian Standards on surgical instruments has been taken up on the recommendations of the Advisory Committee for Development of Surgical Instruments, Equipment and Appliances, Government of India.

**0.3** This Indian Standard is one of a series of Indian Standards on surgical instruments. Other standards published so far in the series appear at page 8.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

### 1. SCOPE

**1.1** This standard lays down the requirements for nasal punch forceps (Citelli's antrum and Hajek's sphenoidal).

### 2. MATERIAL

**2.1** The forceps and springs shall be made from stainless steel conforming to Designation 30Cr13 of Schedule V of IS : 1570-1961† or the composition given below:

	<i>Percent</i>
Carbon	0.35 to 0.45
Silicon	0.10 „ 0.70
Manganese	0.30 „ 0.70
Nickel	1.00, <i>Max</i>
Chromium	12.0 to 14.0

\*Rules for rounding off numerical values (*revised*).

†Schedules for wrought steels for general engineering purposes.

**2.2** The knurled thumb screw and pin, where used, shall be of stainless steel conforming to the Designation mentioned in 2.1 or 20Cr18Ni2 of Schedule V of IS : 1570-1961\*.

### **3. SHAPES AND DIMENSIONS**

**3.1** The general shapes and dimensions of the forceps shall be as given in Fig. 1 and 2.

**3.2 Joints** — The joints of the forceps shall be as given in 3.2.1 and 3.2.2 below. The joints shall work smoothly without undue shake or play.

**3.2.1** The joint for Citelli's antrum forceps shall be of recessed-screw type conforming to Fig. 1.

**3.2.2** The joint for Hajek's sphenoidal forceps shall be as shown in Fig. 2.

### **4. WORKMANSHIP AND FINISH**

**4.1** The forceps shall be of a symmetrical and balanced construction and the sliding of the jaws shall be even and without jerks. The punching nose or tip shall have a sharp edge and shall be recessed to provide for a good cutting action. The tips shall register accurately to facilitate efficient shearing. The forceps shall be free from surface defects like scales, burrs, pits, seams, cracks, etc. The forceps shall be passivated and polished bright.

### **5. HEAT TREATMENT**

**5.1** The forceps, except the punching tips, shall be suitably hardened and tempered to give a uniform hardness of 400 to 460 *HV*. The punching tips shall be hardened and tempered to give a hardness of 550 to 600 *HV*.

### **6. TESTS**

**6.1** Punch forceps shall be made to punch cow-curried leather of the following thicknesses, by pressing the arms with moderate force:

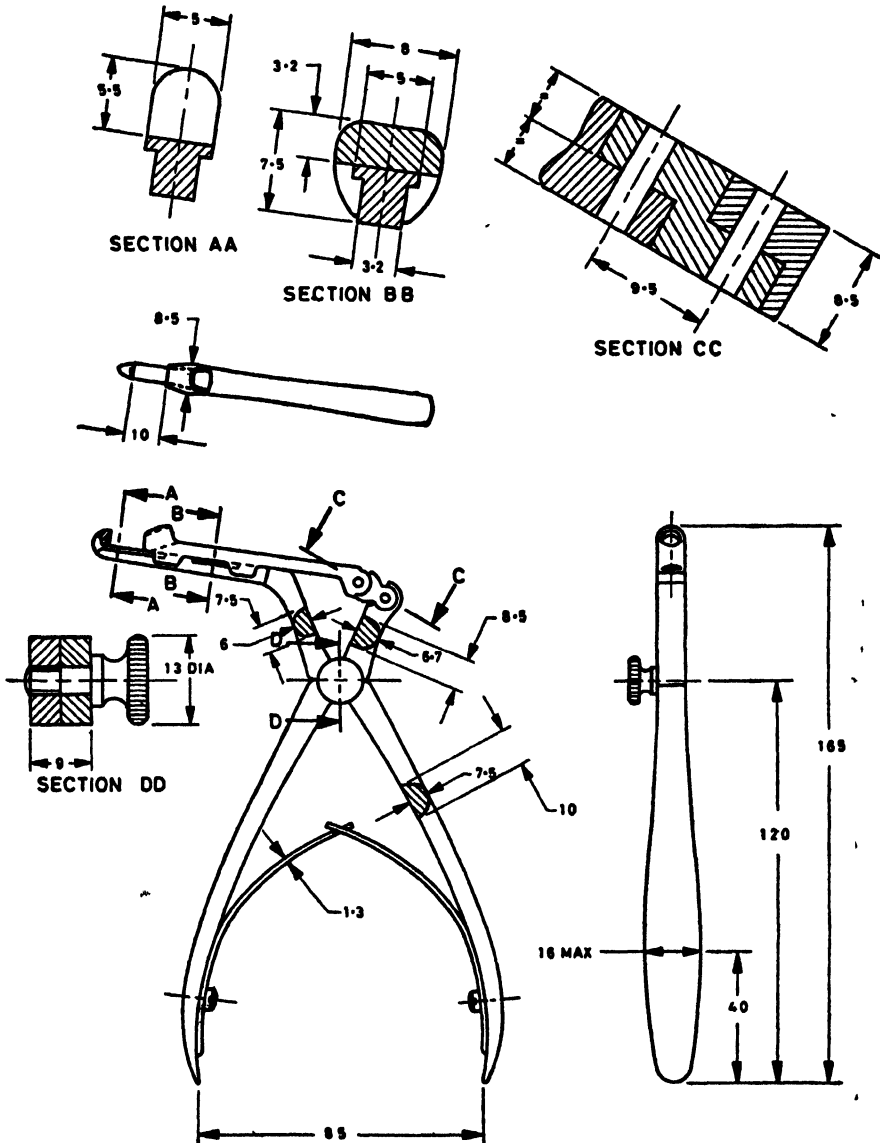
<i>Type</i>	<i>Thickness of Leather</i> mm
i) Citelli's antrum	1.5
ii) Hajek's sphenoidal	1.0

The forceps shall punch clean and neat without damage to its punching tips.

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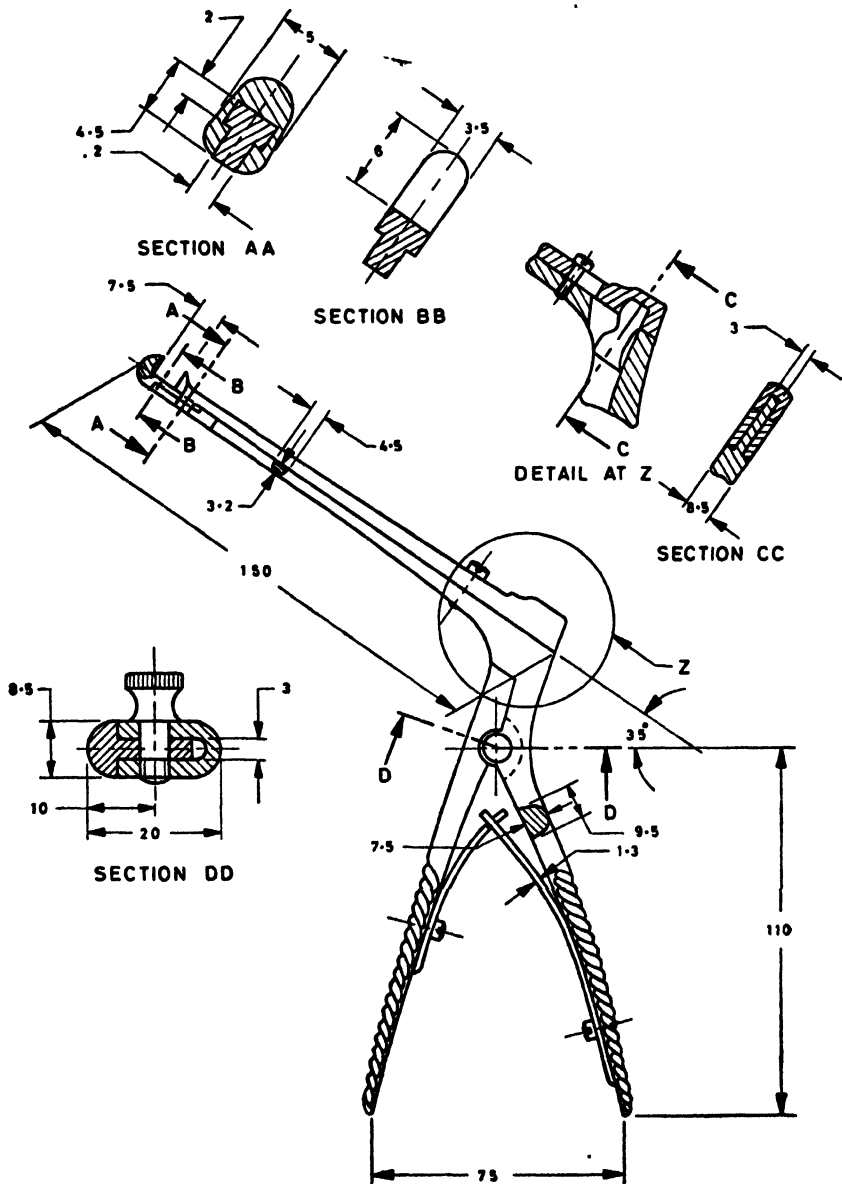
\*Schedules for wrought steels for general engineering purposes.





All dimensions in millimetres.

FIG. 1 FORCEPS, PUNCH, ANTRUM, CITELLI'S PATTERN



All dimensions in millimetres.

FIG. 2 FORCEPS, PUNCH, SPHENOIDAL, HAJEE'S PATTERN

**6.2 Corrosion Resistance** — The forceps shall be tested for corrosion resistance as given in 6.2.1.

**6.2.1 Copper Sulphate Test** — The sample shall be scrubbed with soap and warm water, rinsed in hot water, followed by a dip in ethyl alcohol (95 percent) and dried. The sample shall be completely immersed in copper sulphate solution at room temperature for six minutes and shall then be washed off with fresh water or wet cotton wool. The copper sulphate solution shall be made up as follows:

Copper sulphate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ )	4.0 g
Sulphuric acid ( $\text{H}_2\text{SO}_4$ ) ( sp gr 1.84 )	10.0 g
Water ( $\text{H}_2\text{O}$ )	90.0 ml

There shall be no red stains or spots on the sample after the test but the polished surface getting dull may be permitted.

## 7. MARKING

**7.1** Each forceps shall be clearly and indelibly marked with the manufacturer's name, initials or trade-mark in addition to the words ' STAINLESS STEEL '.

**7.1.1** The forceps may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## 8. PACKING

**8.1** The forceps shall be individually wrapped in moisture-proof paper or polyethylene bag. They shall be packed in a manner that coming into contact with each other is avoided.

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Printed at Delhi Printers, Delhi 6, India

AMENDMENT NO. 1 DECEMBER 1978

TO

IS:4520-1968 SPECIFICATION FOR FORCEPS,  
PUNCH, NASAL (CITELLI'S ANTRUM AND  
HAJEK'S SPHENOIDAL)

Alteration

(Page 2 clauses 6.2 and 6.2.1) - Substitute